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Stewart Nathan Ridgley Swatton

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MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP

300 S. WACKER DRIVE

32ND FLOOR

CHICAGO, IL 60606

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RUSH, ERIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STEWART NATHAN RIDGLEY SWATTON

Appeal 2009-004793
Application 10/501,113
Technology Center 2600

Decided: November 19, 2009

Before KENNETH W. HAIRSTON, ROBERT E. NAPPI,
and KARL D. EASTHOM, *Administrative Patent Judges*.

HAIRSTON, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1, 3, 6, 8, and 9.¹ We have jurisdiction under 35 U.S.C. § 6(b).

We will sustain the rejection.

Appellant's invention is concerned with an optical biometric sensor (e.g., a fingerprint sensor).² Appellant discloses and claims an optical biometric sensor including a detector for detecting radiation emitted from a radiation source, a planar slab waveguide, and an interference filter disposed between the waveguide and the detector.³

Claim 8 reproduced below with emphasis added, is representative of the subject matter on appeal:

8. An optical biometric sensor comprising:

a radiation detector;

a radiation director capable of directing radiation from a point of contact of an individual with the radiation director towards the radiation detector in response to contact of the individual with the radiation director at the point of contact, the radiation director further comprising a planar slab waveguide having a core layer with a region which is at least partly exposed and a radiation source for introducing radiation into the core layer such that radiation propagates throughout the exposed region thereof wherein the sensor further comprises *an interference filter disposed between the planar slab waveguide and the radiation detector*. (Claim 8 (emphasis added)).

¹ Claims 2, 4, 5, and 7 have been canceled.

² See Spec. 1-3.

³ See Spec. 4:27-6:2; claims 1 and 8; Figs. 1 and 2.

The Examiner relies upon the following as evidence of unpatentability:

Wong	US 5,822,445	Oct. 13, 1998
Johnson	US 6,444,969 B2	Sep. 3, 2002

The following sole rejection is before us for review:

Claims 1, 3, 6, 8, and 9 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Wong and Johnson.

The Examiner relies upon Wong as disclosing a direct optical biometric sensor having a radiation detector, radiation director, and a planar slab waveguide (Ans. 3-4, 6). The Examiner relies upon Johnson as disclosing an interference filter disposed between a waveguide and a detector (Ans. 4-7).

Appellant does not dispute the teachings or suggestions of Wong, nor does Appellant dispute the motivation for combining Johnson with Wong. Instead, Appellant argues (App. Br. 8-9; Reply Br. 3-5), *inter alia*, that Johnson fails to disclose or suggest an interference filter. Appellant argues (App. Br. 8-9; Reply Br. 3-4) that Johnson's filter 20 prevents detector interference by blocking radiation, and is not a multilayer structure that optically rejects light by interference effects, but is instead an absorption filter. Appellant also argues (App. Br. 9; Reply 2, 4-5) that one of ordinary skill in the art would understand that "interference filter" means a multilayered filter that operates using optical interference effects, and that the multilayered structure (as shown in Appellant's Fig. 2) is implicit in the use of the term "interference filter."

Appellant (App. Br. 6-9; Reply Br. 2-5) does not make the foregoing arguments based on an analysis of a particular claim with respect to the teachings of Johnson. Both independent claims 1 and 8, along with their corresponding dependent claims 3, 6, and 9, contain the general features of an optical biometric sensor having a radiation detector, radiation director including a waveguide, and an *interference filter* disposed between the waveguide and detector. We consider claim 8 as being representative of the group of claims (claims 1, 3, 6, 8, and 9) which stand rejected under 35 U.S.C. § 103(a) as unpatentable over Wong and Johnson. *See* 37 C.F.R. § 41.37(c)(1)(vii).

ISSUE

Based on Appellant's arguments, the issue is: Has Appellant demonstrated that the Examiner erred in finding that Johnson discloses an interference filter, as set forth in representative claim 8?

FINDINGS OF FACT

1. As indicated *supra*, Appellant describes and claims an optical biometric sensor (50 in Fig. 2) including a detector 52 for detecting radiation emitted from a radiation source 58/60, a planar slab waveguide 56, and an interference filter 55 disposed between the waveguide 56 and the detector 52.
2. Appellant discloses that:

The interference filter 55 operates to reduce the solid angle of diverted light subtended by the CMOS detector array 52 at the point at which the individual's fingerprint

ridge makes contact with the waveguide 56. This provides the sensor 50 with a greater resolution than that of the sensor 10.

Spec. 5:6-9.

3. Johnson describes a filter 20 for filtering interference (*see generally* Fig. 1; col. 3, ll. 43-51; col. 4, ll. 22-30; col. 6, ll. 30-37). The filter 20 is located between a waveguide 8 and a sensor 3.

4. As stated by Johnson:

. . . The photoelectric sensor may have a filter 20 or may be tuned to detect only the frequency of radiation emitted by the LED array *so as to prevent interference* from radiation from other sources. Alternatively, filters or shields may be installed on all exposed exterior surfaces of the prism to prevent admission of radiation to the prism from any source other than the LED array.

Column 4, lines 22-30 (emphasis added).

PRINCIPLES OF LAW

Claim Construction

“During examination, ‘claims . . . are to be given their broadest reasonable interpretation consistent with the specification, and . . . claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.’” *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (citation omitted); *In re Morris*, 127 F.3d 1048, 1053-54 (Fed. Cir. 1997). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive;

it is the single best guide to the meaning of a disputed term.”” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (citation omitted).

Obviousness

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). The Examiner’s “articulated reasoning . . . in the rejection must possess a rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).

The Examiner bears the initial burden of presenting a prima facie case of obviousness, and Appellants have the burden of presenting a rebuttal to the prima facie case. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). Appellants have the burden on appeal to the Board to demonstrate error in the Examiner’s position. *See Kahn*, 441 F.3d at 985-86.

ANALYSIS

Claims 8 and 9

We will sustain the Examiner’s rejection with respect to representative claim 8 for the reasons that follow. We agree with the Examiner’s findings of fact and conclusions of obviousness with respect to claim 8 (Ans. 6-7, 8-11), and adopt them as our own, along with some amplification of the Examiner’s explanation of the teachings of Johnson (FF 3, 4), as well as Appellant’s Specification (*see* FF 1, 2). *See Fine*, 837 F.2d at 1073; *Kahn*, 441 F.3d at 988.

Representative claim 8, and claim 9 (due to its dependency on claim 8), each recites “an interference filter” (claim 8). The originally filed Specification supports *interference filter* as meaning a filter that filters light interference (*see* FF 2). In other words, one of ordinary skill in the art would understand that an interference filter is simply a filter that filters interference in the form of light (i.e., radiation).

Claim 8 merely requires that an interference filter be disposed between a waveguide and a detector with no limit on how the filter functions or operates to filter interference. *See Am. Acad. of Sci. Tech Ctr.*, 367 F.3d at 1364. The phrase *interference filter* broadly encompasses a filter that filters interference in the form of light, and does not require by definition that the filter be a *multilayered structure* (as shown in Appellant’s Fig. 2) or that interference be filtered optically in order *to improve resolution*. *Id.*

A proper interpretation of claim 8, giving this claim its broadest reasonable interpretation consistent with the Specification as understood by one of ordinary skill in the art (*Phillips*, 415 F.3d at 1315), has to rely on the specific description provided in the originally filed Specification. The Specification describes an interference filter as a filter that operates to reduce the solid angle of diverted light (FF 2). In other words, the filter filters light, which results in filtering out unwanted interference.

As indicated *supra* (FF 3, 4), Johnson describes an interference filter as broadly set forth in representative claim 8. Johnson specifically discloses filter 20 for the purpose of filtering radiation (e.g., light) “so as to prevent interference” (FF 4). Thus, Appellant has not demonstrated that the Examiner erred in relying on Johnson as disclosing or suggesting an

interference filter, at least to the extent that this feature is broadly set forth in representative claim 8. *See Am. Acad. of Sci. Tech Ctr.*, 367 F.3d at 1364.

The Examiner has provided articulated reasoning with a rational underpinning to support the combination for the legal conclusion of obviousness (Ans. 3-11). *See Kahn*, 441 F.3d at 988. We agree with the Examiner that Johnson discloses or suggests an interference filter. We also agree with the Examiner that it would have been obvious to modify Wong with the teachings of Johnson to prevent artifacts introduced from erroneous radiation by filtering (Ans. 5, 7).

Once the Examiner has satisfied the burden of presenting a prima facie case of obviousness, the burden then shifts to Appellant to present evidence and/or arguments that persuasively rebut the Examiner's prima facie case. *See Oetiker*, 977 F.2d at 1445. In view of our discussion as to (i) the teachings and suggestions of Johnson *supra*, and (ii) Appellant's arguments *infra*, Appellant has not demonstrated that the Examiner erred in determining that Johnson discloses or suggests an interference filter. Furthermore, as indicated *supra*, Appellant does not present any argument as to Wong or the motivation to modify Wong.

Appellants' arguments (App. Br. 8-9; Reply Br. 3-4) that Johnson's filter 20 is not a multilayer structure that optically rejects light by interference effects to improve resolution, but is instead an absorption filter that prevents detector interference by blocking radiation, are unpersuasive inasmuch as they are not commensurate with the terminology set forth in claim 8 of simply, *interference filter*. The phrase "multilayer structure" and "resolution" do not appear in claim 8 (or any other claim for that matter).

Appellant's arguments (App. Br. 9; Reply 2, 4-5) that one of ordinary skill in the art would understand that "interference filter" means a multilayered filter that operates using optical interference effects, and that the multilayered structure (as shown in Appellant's Fig. 2) is implicit in the use of the term "interference filter," are not persuasive in light of our findings with respect to Appellant's disclosure in the Specification (FF 1, 2).

In view of the foregoing, we will sustain the obviousness rejection of representative claim 8. The same holds true for claim 9, which depends from claim 8.

Claims 1, 3, and 6

Appellant has not presented any patentability arguments as to claims 1, 3, and 6, other than stating that the Examiner failed to make a prima facie case of obviousness with regard to these claims because Johnson fails to disclose an interference filter (*see* App. Br. 10; Reply Br. 5).

Since Appellant has not particularly pointed out errors in the Examiner's reasoning to persuasively rebut the Examiner's prima facie case of obviousness, the rejection of claims 1, 3, and 6 is therefore sustained for similar reasons as to representative claim 8.

CONCLUSION OF LAW

Appellant has not shown that the Examiner erred in finding that Johnson discloses or suggests an interference filter, as set forth in representative claim 8.

ORDER

The decision of the Examiner to reject claims 1, 3, 6, 8, and 9 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

KIS

MCDONNELL BOEHNEN HULBERT & BERGHOFF, L.L.P.
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606